

Our experience of cryodestruction of small renal tumors
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Наш опыт применения криодиструкции опухолей почек
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Abstract: *percutaneous retroperitoneal endoscopy as a diagnostic method is illustrated and may be used in the final stages of the survey in the case of inefficiency of traditional diagnostic techniques, because it allows making a visual inspection of the pathological formation of the retroperitoneal space, and obtaining a morphological substrate intraoperatively resolve the question of scope and nature of the surgery.*

Аннотация: *перкутанный ретроперитонеальный эндоскопический доступ используется в диагностике, также может использоваться в заключительных этапах обследования в случае неэффективности традиционных методов диагностики. Также это позволяет визуально осмотреть место патологического образования брюшинного пространства и получить гистологический материал, а также интродероскопически решить вопрос об объеме и характере операции.*

Keywords: *endovideosurgical, renal tumor, cryoablation.*

Ключевые слова: *эндовидеосургия, опухоль почек, криодиструкция.*

Currently, renal cancer takes 6th place in men and 12th in women among all malignant neoplasms in industrialized countries, and timely diagnosis and treatment is still a major problem of oncology. On the one hand it is connected with the increasing incidence of renal cell carcinoma, and on the other hand with a low survival rate of patients after conventional surgical treatment due to late diagnosis, and also with a significant resistance to radiation and chemotherapy [1, с. 51:876-878].

The improvement and development of new technologies of the diagnostic images reception put on the agenda the question of their widespread use in clinical practice. In this situation the use of modern multidetector computed tomography with bolus increasing seems to be promising, a method that is likely to be very effective method urology in most countries in the near future. Its advantages include the ability to simultaneously obtain highly informative data on the renal parenchyma, renal vessels surrounding organs and tissues [2, с. 38 (4):306-14, 3, с. 60-64].

Studies clinico-morphological parameters of renal cancer in various tumor size groups showed that when the tumor size increases with varying degrees of correlation, and at the same time there is an increase and amplification of those characteristics, severity of which directly determines the outcome of the disease, and eventually the patient's lifespan. Thus, early diagnosis of renal tumors may have a significant impact on the accuracy of the prediction of clinical course and outcome of the disease, on the development of the indications for minimally invasive treatment methods that will finally determine the quality of life of the patient in the postoperative period, as well as lifespan itself of this group of patients.

The aim of our work is development and introduction of minimally invasive endoscopic treatment of renal tumors into clinical practice - percutaneous endoscopic retroperitoneal cryosurgery of renal tumors.

In the Research Center of Urology for the reporting period 24 endovideosurgical interventions for renal tumors has been performed according to methodology developed by us. In the patients operated for kidney neoplasms by us there were 14 men, 10 women. The average age was 54.5 years.

All endovideosurgical interventions were performed by us via retroperitoneal approach, in our opinion less traumatic, more usual and easy to urologists than transabdominal (laparoscopic). Created with this approach relatively small in terms of volume visual operating working space is sufficient for performing these interventions at small sizes of kidney tumor.

Creation of working surgical volume for retroperitoneal interventions is one of the key moments. For this we use the following method - after treatment of surgical field we made a puncture of the retroperitoneal space with Veress needle in the projection of the angle under 12 rib in the area between the scapular and posterior axillary lines. The needle is inserted to a depth of about 5-6 cm interfascial compartment perinephric space and through it jab carbon dioxide in a volume of 1.5-2 l under pressure of 12-15 ml/min, which is controlled with the light

display block of insufflator with surgical laparoscope by us. After that, through a small incision (about 1.0 cm) in retroperitoneal space we insert 10.5 mm trocar, remove the trocar stylet and through the tube insert an endoscope into the cavity of the retroperitoneal space. One of the key moments of the interventions is the correct position of working endoport that allows to provide freedom of maneuver for tools, the quality of visualization of the intervention area, topographic-anatomical orientation, etc. Installation of the operating endoport carries out at the discretion of the surgeon taking into account constitutional peculiarities of a patient, topographic anatomy of the kidney location and its segment affected by neoplasm, adjacent organs, tactical tasks that are planned to be solved in during the operation, etc. In our experience, there may be no more than three or four well-functioning ports in retroperitoneal approach.

After a visual orientation in the retroperitoneal space on posterior axillary line in the cavity formed by the gas two working trocars (5.0 mm) were injected through the tubes of which we put in endoscopic tools (manipulator, pliers, scissors with electrocoagulating contacts) by means of which we carry out a bundle of retroperitoneal fat, visualization of the kidney, the mobilization of the relevant segment and surface of volumetric tumors. Then we visually evaluate the color, size, shape, consistency, nature of growth and blood supply (hypo- or hypervascularization), and also the presence of symphysis with the surrounding perinephric fat and collateral venous plexus. If discovered intraoperative data confirm the results of preoperative examination and diagnosis does not doubt, in our opinion, further intervention can be carried out without rapid biopsy. In doubtful cases it is possible to make a biopsy sample to perform rapid biopsy.

As an illustration of first time diagnosed kidney tumor, and the successful use of our method of percutaneous retroperitoneal endoscopic cryoablation of kidney tumors following clinical observation is given.

The patient, 55 years old was admitted with complaints of pain in the lumbar region on the right, dull ache. At ultrasonography in the lower pole of the right kidney parenchymatous located tissue formation (2.4 x1, 9 cm size) cm has been detected, with clear contours, inhomogeneous structure. According to the multispiral computed tomography of kidneys with bolus gain in the lower pole of the right kidney parenchymatous located tissue formation (2.4 x1, 9 cm size) is detected, with clear contours, inhomogeneous structure, not uniformly accumulating a contrast agent into the vascular and parenchymatous phase. Clinical diagnosis of the patient has been made - tumor of the right kidney, and then in a planned way performed retroperitoneal percutaneous endoscopic intervention with cryoablation of the right kidney tumor.

Thus, freezing zone extended by not more than 0,5 cm from the visible boundary of pathological focus. For more effective cryoinfluence to the tumor tissue and the renal parenchyma at the bottom of the tumor, we used the two-cyclic freezing technique: Exposure 5-7 minutes, then - the natural heating for 3-5 minutes and refreezing - 5 minutes. After the cryosurgery session a fragment of extrarenal part of kidney tumor was resected and sent for histological examination.

The operation ended with the installation of drainage tube in the retroperitoneal space and suturing of 3 skin defects. In the postoperative period on the 2nd day the patient is allowed to get up from the bed, the drainage tube is removed on the 3rd day, wounds heal by first intention, and the stitches are removed on the 6th day. According to the data of control ultrasonography of kidney conducted at discharge, there are no signs of complications in the immediate postoperative period.

At histological research of the tumor tissue taken before the cryosurgery session renal cell carcinoma has been revealed clear cell variant. The tumor was built of clear cells. Lasts formed solid and alveolar fields with connective tissue sections. After the cryoablation in the tumor tissue appeared homogeneous fields presented with a pink tissue. Last allowed to interpret the morphological data as the beginning of tumor lysis.

The patient was discharged on the 6th day after surgery on ambulatory monitoring of oncurologist. In carrying out the control of multispiral computed tomography with bolus gain (after 6 months there is no signs of recurrence of the tumor in the right kidney).

Developed by us and introduced into clinical practice retroperitoneal percutaneous endoscopic organ saving interventions, performed in the early stages of renal tumors with cryoablation, are comparable in terms of effectiveness and radicalism to the traditional methods of open surgery (resection of renal tumor, nephrectomy) and at the same are different because of significantly less traumatism and lack of early postoperative complications.

So, percutaneous retroperitoneal endoscopy as a diagnostic method is illustrated and may be used in the final stages of the survey in the case of inefficiency of traditional diagnostic techniques, because it allows making a visual inspection of the pathological formation of the retroperitoneal space, and obtaining a morphological substrate intraoperatively resolve the question of scope and nature of the surgery. Percutaneous retroperitoneal endoscopic interventions with the performance of kidney tumor cryoablation is a new highly effective method in the intraoperative diagnosis and treatment of early stages of disease, and allows to achieve positive results through less traumatic, objective and high-tech interventions.

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